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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/617,388	07/11/2003	Kuo-Yu Chou	BHT-3212-29	2203

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EXAMINER
SELBY, GEVELL V

ART UNIT	PAPER NUMBER
2622	

DATE MAILED: 11/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/617,388	CHOU, KUO-YU	
	Examiner	Art Unit	
	Gevell Selby	2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *11 July 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Kulhalli et al., US 6,822,679.

In regard to claims 1, 8, and 15, Kulhalli et al., US 6,822,679, discloses a correction system and correction method of an analog front end, the analog front end being used to receive a pixel signal outputted by a image sensor and convert the pixel signal to a digital output signal after amplifying the pixel signal (see figure 3), the image sensor comprising a plurality of black pixel units and a plurality of RGB pixel units, and outputting a plurality of black pixel signals and a plurality of RGB pixel signals, the correction system being used to correct the digital output signal (see figure 1, element 130), and comprising:

a correction module (see figure 3, elements 360,375, 370, 380, and 390) for receiving the digital output signal (see column 7, lines 27-28); and

generating a first digital correction signal and at least one second digital correction signal when the image sensor outputs black pixel signals (see column 7, lines 18-26);

a first digital-to-analog converter (see figure 3, element 310) for receiving the first digital correction signal and converting the first digital correction signal to a first analog correction signal (see column 7, lines 51-53); and

inputting the first analog correction signal to the analog front end to correct the pixel signal inputted into the analog front end (see column 7, lines 51-60); and

a second digital-to-analog converter (see figure 3, element 340) for receiving the at least one second digital correction signal and converting the at least one second digital correction signal to at least one second analog correction signal (see column 7, lines 51-53); and

inputting the at least one second analog correction signal to the analog front end to be amplified and converted, then getting at least one first digital signal (see column 7, lines 51-60);

wherein the correction module generates a real converting curve according to the at least one first digital signal (see column 9, line 62 to column 10, line 2: the filtering block 360 and averager 370 determines the hot pixel and averaged the hot pixels for each line creating a real converting curve for the entire image) and gets a gain error by comparing the real converting curve with a ideal converting curve which presents the correct converting relation between the analog output signal and the digital output signal (see column 7,lines 18-26); and

wherein the correction module corrects the following pixel signals inputted into the analog front end according to the first analog correction signal,

and corrects the following digital output signals generated by the analog front end by the gain error (see column 7,lines 27-50).

In regard to claims 2, 9, and 16, Kulhalli et al., US 6,822,679, discloses the correction system and method of claims 1,8 and 15, respectively, wherein the analog front end comprises a correlated double sampling module (CDS) (see figure 3, element 320), a variable gain amplifier (VGA) (see figure 3, element 330) , and an analog-to-digital converter (see figure 3, element 350), the CDS being used to generate an analog sampling signal by receiving the pixel signal and double sampling the pixel signal (see column 8,lines 9-12);

the VGA with plurality of gain factor being used to amplify the analog sampling signal with different gain factor according to different image captured by the image sensor (see column 8,lines 20-25);

the analog-to-digital converter being used to convert the amplified analog sampling signal to the digital output signal (see column 7,lines 4-5).

In regard to claims 3, 10, and 17, Kulhalli et al., US 6,822,679, discloses the correction system and method of claims 2, 9, and 16, respectively, wherein the first analog correction signal is inputted into the CDS in order to correct the analog sampling signal (see figure 3: V_{CDAC} is input into the CDS 320 when the switch 324 is closed).

In regard to claims 4, 11, and 18, Kulhalli et al., US 6,822,679, discloses the correction system and method of claims 2, 9, and 16, respectively, wherein the at least one second analog correction signal is inputted into the VGA in order to get the at least one first digital signal after amplified by the VGA and converted by the analog-to-digital

converter (see figure 3: the FDAC output voltage is input into the PGA 330 when the switch 331 is closed).

In regard to claims 5, 12, and 19, Kulhalli et al., US 6,822,679, discloses the correction system and method of claims 2, 9, and 16, wherein the at least one second analog correction signal is inputted into the analog-to-digital converter in order to get the at least one first digital signal after converted by the analog-to-digital converter (see column 7, lines 1-5 and figure 3: the FDAC output voltage is input into the ADC 350 when the switch 335 is closed).

In regard to claims 6, 13, and 20, Kulhalli et al., US 6,822,679, discloses the correction system and method of claims 1, 8, and 15, further comprising a predetermined value (threshold), wherein the level of the corrected pixel signal is below the predetermined value (see column 11,lines 38-44).

In regard to claims 7 and 14, Kulhalli et al., US 6,822,679, discloses the correction system and method of claims 1 and 8, wherein the correction module generates a plurality of converting curve segments according to the at least one first digital signal, and the real converting curve is composed of the plurality of converting curve segments (see column 9, line 62 to column 10, line 2: the filtering block 360 and averager 370 determines the hot pixel and averaged the hot pixels for each line creating a real converting curve for the entire image).

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 6,694,063, discloses an offset correction device for a CCD

US 6,753,913, discloses image processing apparatus that provides optical black and offset correction.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gevell Selby whose telephone number is 571-272-7369. The examiner can normally be reached on 8:00 A.M. - 5:30 PM (every other Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivek Srivastava can be reached on 571-272-7304. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

gvs

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